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Editorial

Scientific research on track and field

Track and field or athletics is a sport that contains competitions of running, jumping, and throwing. It is among the oldest and most popular sports in the world. The Olympic motto, Faster, Higher, Stronger originally proposed by Pierre de Coubertina represents the moral beauty of sports, particularly the beauty of track and field. The competitions of track and field are the competitions of basic athletic movements. Because of this nature, track and field is viewed as the basis of other sports, and the training methods and science in track and field can be applied to many other sports.

The International Association of Athletic Federation (IAAF) is the international governing body of track and field. The two most prestigious international track and field competitions in the world are athletics competition at the Olympic Games and the IAAF World Championships in Athletics. The 2015 IAAF World Championships in Athletics were held in Beijing, China. To celebrate this important event in track and field, and to promote scientific research on sports performance, we published this special issue on track and field.

This special issue included a series of review articles on strength and conditioning, which is important for not only track and field but also many other supports.[1,2] We also included a review of literature on hypoxic training,[3] which is a special method of endurance training in track and field as well as in many other sports. In addition, we included a report of a case of anterior cruciate ligament injury in javelin throw, which provided significant information for understanding of mechanisms and risk factors of anterior cruciate ligament injury in general.[4] Finally we included several original studies on biomechanics of sports techniques for a variety of events in track and field.[5–7] One of these studies combined biomechanical feedback and motor learning theories in technique training.[5]

Among the contributors to this special issue, Dr. Robert Chapman is an associate professor at Indiana University and associate director of Sports Medicine & Science Committee in USA Track & Field, and a well-known expert in exercise physiology, especially in hypoxic training; Drs. Michael and Maggie Stone are professors in East Tennessee State University, and well-known experts in strength and conditioning; Dr. Hui Liu, a professor at Beijing Sport University, an expert in biomechanics of sports techniques; and Dr. Will Wu, an associate professor at California State University at Long Beach, an expert in motor learning. We also have Dr. James Becker at California State University at Long Beach, Dr. Ian Hunter at Brigham Young University, and Dr. Bing Yu at The University of North Carolina at Chapel Hill, who are experts in biomechanics of a variety of events in track and field, and working with coaches and athletes in USA Track & Field for many years. In addition, we have Dr. Boyi Dai at University of Wyoming and Dr. William Garrett at Duke University, who are experts in sports injury prevention and rehabilitation. These contributors' scientific research provided significant information for development of the sports of track and field as well as other sports. I would like to thank these contributors to this special issue, and hope their articles would promote scientific research on sports performance and injury prevention in track and field as well as in other sports events.

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